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- of claim 3 in which said VH
n of any one of the scFvs of
of claim 4 in which said an
membrane-bound form of BL

9. The antibody of claim 3 in which said VH domain consists of the amino acid sequence of the VH domain of any one of the scFvs of SEQ ID NOS: 1563 through 1880.

10. The antibody of claim 9 in which, and in which said antibody immunospecifically binds to the soluble form of BLYS.

11. The antibody of claim 9 in which said VH domain consists of the amino acid sequence of the VH domain of any one of the scFvs of SEQ ID NOS: 1563 through 1569.

12. The antibody of claim 9 in which said VH domain consists of the amino acid sequence of the VH domain of any one of the scFvs of SEQ ID NOS: 1570 through 1595.

13. The antibody of claim 3 in which said VH domain consists of the amino acid sequence of the VH domain of any one of the scFvs of SEQ ID NOS: 1881 through 2128.

14. The antibody of claim 13 in which said antibody immunospecifically binds to the membrane-bound form of BLYS.

15. The antibody of claim 13 in which said VH domain consists of the amino acid sequence of the VH domain of any one of the scFvs of SEQ ID NOS: 1881 through 1885.

16. The antibody of claim 13 in which said VH domain consists of the amino acid sequence of the VH domain of any one of the scFvs of SEQ ID NOS: 1886 through 1908.

17. The antibody of claim 1, wherein the second amino acid sequence consists of the amino acid sequence of a VL domain of any one of the scFvs of SEQ ID NOS: 1 through 2128.

18. The antibody of claim 17 in which said VL domain consists of the amino acid sequence of the VL domain of any one of the scFvs of SEQ ID NOS: 1 through 1562.

19. The antibody of claim 18 in which said antibody immunospecifically binds to both the soluble form and membrane-bound form of BLYS.

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20. The antibody of claim 18 in which said VL domain consists of the amino acid sequence of the VL domain of any one of the scFvs of SEQ ID NOS: 1 through 46 and 321 through 329.

21. The antibody of claim 20 in which said VL domain consists of the amino acid sequence of the VH domain of any one of the scFvs of SEQ ID NOS: 2, 9, and 327.

22. The antibody of claim 18 in which said VL domain consists of the amino acid sequence of the VL domain of any one of the scFvs of SEQ ID NOS: 834 through 872.

23. The antibody of claim 17 in which said VL domain consists of the amino acid sequence of the VL domain of any one of the scFvs of SEQ ID NOS: 1563 through 1880.

24. The antibody of claim 23 said antibody immunospecifically binds to the soluble form of BLyS.

25. The antibody of claim 23 in which said VL domain consists of the amino acid sequence of the VL domain of any one of the scFvs of SEQ ID NOS: 1563 through 1569.

26. The antibody of claim 23 in which said VL domain consists of the amino acid sequence of the VL domain of any one of the scFvs of SEQ ID NOS: 1570 through 1595.

27. The antibody of claim 17 in which said VL domain consists of the amino acid sequence of the VL domain of any one of the scFvs of SEQ ID NOS: 1881 through 2128.

28. The antibody of claim 27 in which said antibody immunospecifically binds to the membrane-bound form of BLyS.

29. The antibody of claim 27 in which said VL domain consists of the amino acid sequence of the VL domain of any one of the scFvs of SEQ ID NOS: 1881 through 1885.

30. The antibody of claim 27 in which said VL domain consists of the amino acid sequence of the VL domain of any one of the scFvs of SEQ ID NOS: 1886 through 1908.

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- (e) a human IgG4 constant domain; and
- (f) a human IgA constant domain.

50. The antibody of claim 17 or 38, which also comprises a light chain immunoglobulin constant domain selected from the group consisting of:

- (a) a human Ig kappa constant domain;
- (b) a human Ig lambda constant domain.

51. The antibody of claim 1, wherein the antibody has a dissociation constant (K_D) selected from the group consisting of:

- (a) a dissociation constant (K_D) between 10^{-7} M and 10^{-8} M;
- (b) a dissociation constant (K_D) between 10^{-8} M and 10^{-9} M;
- (c) a dissociation constant (K_D) between 10^{-9} M and 10^{-10} M;
- (d) a dissociation constant (K_D) between 10^{-10} M and 10^{-11} M;
- (e) a dissociation constant (K_D) between 10^{-11} M and 10^{-12} M; and
- (f) a dissociation constant (K_D) between 10^{-12} M and 10^{-13} M.

52. The antibody of claim 1, wherein the antibody is conjugated to a detectable label.

53. The antibody of claim 52, wherein the detectable label is a radiolabel.

54. The antibody of claim 53, wherein the radiolabel is ^{125}I , ^{131}I , ^{111}In , ^{90}Y , ^{99}Tc , ^{177}Lu , ^{166}Ho , or ^{153}Sm .

55. The antibody of claim 52, wherein the detectable label is an enzyme, a fluorescent label, a luminescent label, or a bioluminescent label.

56. The antibody of claim 1, wherein the antibody is biotinylated.

57. The antibody of claim 1, wherein the antibody is conjugated to a therapeutic or cytotoxic agent.

58. The antibody of claim 57, wherein the therapeutic or cytotoxic agent is selected from the group consisting of:

- (a) an anti-metabolite,
- (b) an alkylating agent;
- (c) an antibiotic;
- (d) a growth factor;
- (e) a cytokine;
- (f) an anti-angiogenic agent;
- (g) an anti-mitotic agent;
- (h) an anthracycline;
- (i) toxin; and
- (j) an apoptotic agent.

59. An antibody of claim 1, that neutralizes BLyS or a fragment thereof.

60. The antibody of claim 59, that diminishes or abolishes the ability of BLyS or a fragment thereof to bind to its receptor.

61. The antibody of claim 60, wherein the receptor is TACI.

62. The antibody of claim 60, wherein the receptor is BCMA.

63. The antibody of claim 59, that diminishes or abolishes the ability of BLyS or a fragment thereof to stimulate B cell proliferation.

64. The antibody of claim 59, that diminishes or abolishes the ability of BLyS or a fragment thereof to stimulate immunoglobulin secretion by B cells.

65. An antibody of claim 1, that enhances the activity of BLyS or a fragment thereof.

66. The antibody of claim 65, that increases the ability of BLyS or a fragment thereof to bind to its receptor.

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67. The antibody of claim 66, wherein the receptor is TACI.

68. The antibody of claim 66, wherein the receptor is BCMA.

69. The antibody of claim 65, that increases the ability of BLyS or a fragment thereof to stimulate B cell proliferation.

70. The antibody of claim 65, that increases the ability of BLyS or a fragment thereof to stimulate immunoglobulin secretion by B cells.

71. The antibody of claim 1 covalently linked to a heterologous polypeptide.

72. The antibody of claim 71, wherein the heterologous polypeptide is human serum albumin.

73. The antibody of claim 1 in a pharmaceutically acceptable carrier.

74. A kit comprising the antibody of claim 1.

sub
a1 } 75. An isolated nucleic acid molecule encoding the antibody of claim 1.

76. A vector comprising the isolated nucleic acid molecule of claim 75.

77. The vector of claim 76 which also comprises a nucleotide sequence which regulates the expression of the antibody encoded by the nucleic acid molecule.

78. A host cell comprising the nucleic acid molecule of claim 77.

sub
a1 } 79. A cell line engineered to express the antibody of claim 1.

80. An antibody that binds the same epitope as the antibody of claim 1.

sub
a1 } 81. An antibody that competitively inhibits the binding of the antibody produced by the cell line having ATCC Deposit Number PTA-3239.

82. An antibody that competitively inhibits the binding of the antibody produced by the cell line having ATCC Deposit Number PTA-3240

83. An antibody that competitively inhibits the binding of the antibody produced by the cell line having ATCC Deposit Number PTA-3243.

84. An second antibody that reduces the binding of the antibody of claim 1 by an increment within a percentage range selected from the group consisting of:

- (a) from 50% up to 60%;
- (b) from 60% up to 70%;
- (c) from 70% up to 80%;
- (d) from 80% up to 90%; and
- (e) from 90% up to 100%.

85. An antibody that immunospecifically binds to BLYS, said antibody comprising an amino acid sequence of a VH domain encoded by a nucleotide sequence that hybridizes under stringent conditions to a nucleotide sequence encoding a VH domain of an scFv comprising an amino acid sequence of any one of SEQ ID NOS: 1 to 2128.

86. An antibody that immunospecifically binds to BLYS, said antibody comprising an amino acid sequence of a VL domain encoded by a nucleotide sequence that hybridizes under stringent conditions to a nucleotide sequence encoding a VL domain from an scFv comprising an amino acid sequence of any one of SEQ ID NOS: 1 to 2128.

87. A method for detecting aberrant expression of BLYS protein, comprising:

- (a) assaying the level of BLYS expression in a first biological sample of an individual using one or more antibodies or fragments or variants thereof of claim 1; and
- (b) comparing the level of BLYS assayed in biological sample with a standard level of BLYS expression or level of BLYS in a second, normal biological sample;
- (c) wherein an increase or decrease in the assayed level of BLYS in the first biological sample compared to the standard level of BLYS expression or level of BLYS in a second, normal biological sample, is indicative of aberrant expression.

95. The method of claim 92, wherein the disease or disorder of the immune system is an immunodeficiency selected from the group consisting of:

- (a) Common Variable Immunodeficiency (CVID); and
- (b) AIDS.

96. The method of claim 91, wherein the disease or disorder of the immune system is cancer.

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